Tewksbury (S. H.)

Vesico-Vaginal Lithotomy

In a Child Seven Years Old.

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VESICO-VAGINAL LITHOTOMY.

The history of the case is shown by a letter from Dr. C. F. Bonney, of Cornish, in which he says: "Was called, Nov. 15th, to visit a child of Mr. John Chandler, Upper Bartlett, N. H.; was accompanied from North Conway, by Dr. Bragdon, who at the time was in charge of the case. I found the patient lying upon her left side with lower extremities strongly flexed upon the trunk, and presenting a sad picture of long and intense suffering. I gathered from the mother the following history of the case. The child had been from its birth rather delicate, but no indication of serious indisposition appeared until her third year, when she showed signs of difficult micturition, the result as was supposed of injury of the spine from a fall. But after a time the urinary trouble ceased; at least escaped the notice of the mother. During the last six or eight months, however, she had had an almost constant desire to evacuate the bladder, attended with suffering so terrible, that she had often begged her mother to kill her. I learned from Dr. Bragdon, that she had been seen and treated by several physicians, no two of whom had been able to agree as to the nature of the case. As the symptoms pointed to urethral or cystic trouble, and as a satisfactory examination could not be made without placing the patient under the influence of ether, this measure, after some delay, was effected. I passed a common sized female catheter into the urethra. The freedom and ease with which the catheter passed the canal disposed at once of the idea of urethral obstruction, and passing the instrument into the bladder a stone was clearly detected." Such was the description as given by Dr. Bonney. The doctor then closed with a request for me to visit the case with a view to an operation.

At my visit to see this case, I found it to be as described and diagnosticated by Dr. Bonney, and that an operation was the only procedure to be adopted to relieve the sufferer. The removal of stone in the female by urethra, especially in a child of this age, I did not regard as a safe and justifiable operation, by reason of the danger of inducing incontinence of urine, which was liable to remain permanent. I therefore decided to make the vesico-vaginal section. This operation for stone in the adult female, whose vagina is of the natural size, I look upon as comparatively a simple one, but in this case exceedingly difficult, especially if I should attempt to close the opening into the bladder by sutures. The patient, however, being fully etherized, with the assistance of Drs. Bonney and Bragdon, of North Conway, and the child's father, I removed a stone the size of a pigeon's egg through the vagina and base of the bladder, and immediately closed the opening by six silver sutures.

I will describe the method in which the operation was performed. I first passed a small sound into the bladder to learn the size, as far as possible, of the stone. I then commenced to gradually dilate the vagina, that I might be enabled to introduce one of Sims's small speculums, which in a short time I succeeded in doing. This brought the parts finely to view, and the instrument almost held itself by the tensely distended vagina. A grooved director was then passed through the urethra, curved two inches from its distal extremity, with its convex surface pressing firmly in the median line against the base of the bladder, behind the neck. I then, with a sharp pointed knife, transfixed the vesico-vaginal septum, following the groove in the director, dividing backward in the median line one inch and a quarter. I learned that it was necessary to cut in the groove of the director, and that the director should be pressed firmly against the septum, to hold the vesical and vaginal surfaces together, so that the openings in the two cavities should be in correspondence. The stone was grasped by the forceps, and a larger portion of it removed, though somewhat crushed. The other pieces were removed with a scoop, and the bladder thoroughly washed out. The sutures were applied in the usual manner for vesico-vaginal fistula, with

the catheter in the bladder, and other requirements usually adopted in these cases.

The second day after the operation, Dr. Bragdon in a letter says: "I found our little patient very comfortable. I removed the catheter that was in and introduced the other; morphine ordered to be continued once in six hours."

Four days after the operation, Nov. 27th, Dr. Bragdon said: "I have seen the patient this afternoon, and am happy to say she is doing finely. The catheters have been changed frequently. Morphine is administered twice a day." He also stated that there had been quite a quantity of sedimentary gravel passing away from time to time.

Dec. 7th, on the fourteenth day after the operation, Dr. Bonney removed the sutures. Later, I received a letter from Dr. Bragdon, bearing date Jan. 12, 1871, in which he said: "For nearly one week after the removal of the sutures, she suffered some difficulty in voiding urine; then, for a time was quite comfortable, but not entirely free from difficulty. About one week ago she presented symptoms like those existing before the operation. Having no ether with me at the time of my call, I deferred an examination until to-day, Jan. 12th, when, finding the symptoms still existing, I administered ether and examined by the sound, and found a stone of considerable size existing in the bladder."

He then advised my attendance on the case. Later, Dr. Bonney by my advice being sent for, he introduced a small pair of forceps and crushed the stone, which was of considerable size. Another introduction of the forceps revealed another stone, which was removed. Both were of the phosphatic character, and I may here state in regard to the first stone, that from an analysis by Dr. Gerrish it is principally made up of the ammonio-magnesian phosphates, weighing about two drachms.

I would here remark that Dr. Emmett speaks in his work on vesico-vaginal fistula, of the frequent occurrence of calculi after the operation for fistula.

Dr. Bonney, in conclusion says, June 12, 1871: "I am happy to be able to add that the child has had no further trouble, and is at this time in the enjoyment of health."

Remarks. Stone in the female is comparatively of rare occurrence, its ratio to the male being one case in eighteen to one case in twenty-two, according to different authors and as existing in different countries.

According to most authorities on the subject the operation may be performed in three ways. 1st, by lithectasy (through a dilated urethra). 2d, by lithotomy. 3d, by lithotrity. Each has its peculiar merits.

The first, lithectasy, is most available in females who have borne children, and especially those of lax fibre. Then the parts can readily yield to the necessary limits. This mode presents the advantage of overcoming the diseased state without a recourse to a serious operation. It can only be used in connection with stones of comparatively small size, however. The operation with those of considerable size is liable to be followed by incontinence of urine, hence some other method is necessary.

The third method that I have named is lithotrity (with or without dilatation). Upon this some authors make the broad statement that it should be employed, with rare exceptions, in all cases above puberty.

All agree that in cases of stone of phosphate or uric character crushing can be used almost universally, and in the case of the oxalate of lime species, to the size of an inch in diameter. This operation presents the most favorable indications in the female, on account of the shortness, size and dilatability of the urethra. It is contra-indicated in organic diseases, or in case of severe irritation of the bladder.

The second method, lithotomy, may be performed on the female in a variety of ways, two of which, the most important, we will notice, the supra-pubic, or the "high," and the vaginal. The "high," or super-pubic, does not differ in women materially from the same operation in men. This, with modifications, is the only one commonly noticed by surgical authorities, Erichsen being the only author until a late date that gives the vaginal operation a place among the standard modes of procedure.

In connection with the case in hand we have to speak particularly of the vaginal operation. Not until recent times, since the methods for the relief of vesico-vaginal fistula has been carried to such a

degree of perfection, could this operation take position as either an approved or standard one.

The relief of stone by this mode is not, however, of recent origin. Rousset, a French surgeon, has the credit of performing it first in a case in which the bladder had pushed the anterior wall of the vagina before it, and protruded through the vulva. Fabricus Hildanus followed, and Gooch performed it, in 1740, in a case having an existing ulceration of the septum. M. Velpeau has given the names of several operators who have adopted the vesico-vaginal method.

Most of the earlier operators speak only of the removal of the stone, and say nothing concerning the result as regards the formation of fistulæ. But sifting the literature on the operation of those early times, we are able to collect facts that go to show that the operation had little favor, on account of the resulting danger of fistulæ.

Of late this is changed altogether. The experience of the last ten years has shown that nearly every case of vesico-vaginal fistula, even when attended with great loss of substance, may be firmly and permanently closed by the improved plastic methods now used. How much more certainly, the clean incision following the removal of a stone, attended with no loss of substance, can be easily seen.

M. Vallet, of Orleans, has the honor, I believe, of first performing lithotomy by a section of the vesico-vaginal walls, immediately followed by sutures. It is an operation possessing many and great advantages, for no part of the vesical walls may be incised with so little danger. Being in the median line, no vessels of any magnitude are liable to be wounded. The vesico-vaginal septum, being composed of dense tissue, is little exposed to urinary infiltration, and having a free outlet for the urine provided by catheter, such an occurrence is rendered improbable. Hence, the chance for pelvic cellulitis is remote.

A few statistics of cases will show the relative frequency of the operation and its success. Dr. Lane, England, Oct. 1862, successfully removed a stone from an adult aged thirty-eight, immediately closing the wound by sutures, followed by complete cure. Dr. Lyon, Glasgow, in September, 1862, on adult aged

forty-two; several sutures used; recovery complete. Dr. Avelary read an account of thirty-five cases, before the Obstetrical Society of London, which had occurred in Great Britain and in Foreign countries, the details of which we have been unable to gather. He cited a case of his own, resulting most favorably. Dr. Emmett, in his work on vesico-vaginal fistula, records several successful cases of lithotomy on the adult in this country. In August, 1862, Dr. Robert Nelson performed the operation with perfect success on the adult. The expediency of the operation was fully recognized by Mr. Paget, but his mode of procedure did not combine the best means for cure. He operated for the first time Sept., 1859, on a child three and a half years old. The size of vagina rendered the application of sutures impossible, and incontinence of urine was the result. Mr. Ferguson, March, 1862, operated on a child nine and a half years old, using but one suture; incontinence resulted.

These are the principal historical facts concerning the operation that we have been able to collect. They certainly seem to prophesy that vaginal lithotomy may become a most valuable operation. For each time the operation has been performed in a proper case, with the improvements afforded by modern surgery, success has followed. The instances of failure may be clearly attributed to injudicious selection of the case, and the manner in which the details of the operation were carried out.

The facts show that in an adult female, and especially in the case of a large stone, vaginal lithotomy, with the improved management of the wound, introduced by Sims and others, is the safest and best procedure devised, and deserves to become one of the standard operations of surgery.

And in conclusion, I would state, in regard to lithotomy in the child, that medical literature of the old world, as far as I can discover, affords no example of the removal of stone through vesico-vaginal walls, in which a fistulous opening did not permanently exist afterwards.

And the history of lithotomy in this country, as far as I have been able to learn, does not afford *any* example of the operation.